The Bracer

Many persons have been heard to say that the arm guard or bracer is not necessary and is the badge of the novice. As a matter of fact, novices speak who talk thus, for the bracer not only protects the bow-arm of the archer, but provides the string with a smooth surface against which to strike and speeds the shaft on its way without deflection.

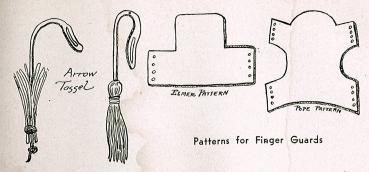
There are many different arm guards and all which protect the arm and string are good. A leather cuff such as used by our cowboys of the plains is suitable if it fits tightly enough so that the string does not catch behind it. A good temporary bracer may be made by stripping the bark from a fallen aspen or other tree and binding it to the arm with thongs. A strip of tin or other light metal may be used. At one of our national tournaments a famous archer used



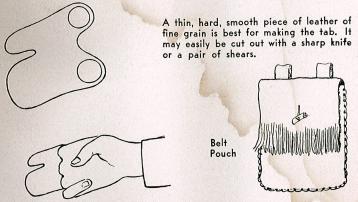
a lead pencil bound to his arm with rubber bands. The most common bracer is one made from a strip of strap leather approximately 6 inches in length with two or three straps and buckles for the arm. A bracer of this material may be stamped with various designs, but if this method of decoration is used a smooth strip should be left down the center for the benefit of the bowstring.

Finger Protection—Gloves, Tips and Tabs

An old glove reenforced with stiff leather on the first three finger tips makes a very good shooting glove, or if you have a light bow no reenforcement is needed. The archers of England used a tab of leather with holes for the first and third fingers and a notch to take care of the shaft on the string.



Finger stalls may be made of leather for the shooting fingers, but should be open above the knuckles to allow freedom of action. A tassel of leather or yarn comes in very handy to cleanse the arrows which have quivered in the sod at the base of the target, for not all of them reach the gold. A very handsome tassel may be made by lashing strips of the same leather as that used for fringing the quiver to a thong having a knot in the end of it. If the strips are reversed, then bent down over the knot and secured with a neat leather lashing, the tassel will be a credit to the quiver. A slot placed in the



other end of the thong may be secured to the belt loop of the quiver in the same manner as a bag tag is secured to a valise, and it will always be ready for the arrow which needs cleaning.

ARM BRACER

The Belt Pouch

The last necessary item in the archer's equipment is the belt pouch or wallet. A piece of split cowhide or oil cloth 7 by 23 inches will answer the purpose. This piece is folded so that about 5 inches will hang down as a flap and the bag will be about 9 inches in depth.

The outside edges may be sewed or laced together, two belt loops attached to the back, a wooden or leather button added beneath the flap with the latter fringed up to the button hole, and the pouch is ready for use. If one piece of leather is not available two pieces may be sewed together and the wallet made just as easily. In this pouch the bracer, the finger guards, a little beeswax are kept and perhaps one or two extra feathers and some glue and arrow heads. A small flat file should be included with which to sharpen the points which deaden themselves against the ever present stones.

Making Your Target

The face of the target is the important part. It must be regulation size and shape. The backing is usually a bast or boss of straw bound and strewn round to make a flat surface. Other material is just as practical provided it is something that arrows can penetrate without injuring them.

The boss should be at least 50 inches across all diameters —52 is better. This provides flat surface for the standard 48 inch scoring face. Rye straw makes the best boss though any long, bulky straw can be used. It should be as straight as possible. Use heavy cord to twine straw into a rope four or five inches in diameter. Sew together like a braided rug. Gordon suggests making your own needle of a 3/16 inch Bessemer rod or other soft iron about a foot long, and flattened, and with an eye drilled in it at one end. Point the other end. Use gloves. Both the straw and binding cord are hard on hands. Make your coils as flat as possible. When you have finished, trim boss with scissors, cutting away any projecting straws but be careful not to cut cords. Lay on floor and flatten out by treading. If lumps appear thump them down.



Canvas may be used for the face of the target, but dull-finished heavy white muslin sign cloth holds paint better and wide oilcloth will do. The so-called Japan colors are the best. They do not "glare," and they cover well and last well. Use Signpainters' Black, Azure Blue, and Automobile Red. Paint concentric circles at different times, so as to give chance to dry.

There are various colorfast gildings for your center gold. One of the best is Sapolin powder, No. 123, mixed with brilliant bronzing liquid. Remember that your gold is 9 and 3/5 inches in diameter, the concentric rings each 4 and 4/5 inches wide. Mark with pencil before you begin to paint. Use a template for accuracy.

Mount on poorer side of boss. Spread a few layers of paper over straw, to keep face from touching it. Center face on papered surface. Pin it in place. Sew in position with lightweight string and a flattened sail needle, using string double. Keep cloth smooth as you stitch. Space stitches about three inches apart and of course, keep them just outside petticoat.

Target Stand

TARGET

This is a simple tripod, consisting of three 6-foot lengths of soft wood, 1 x 3". Drill ½ inch hole 2 inches from top

end of each leg. Round top ends, taper bottom ends and sandpaper. Bolt the three legs together with a 3/8" iron bolt. Drive a nail into each leg, remove head, hammer in until about 1/2 inch projects. This is to keep stand from moving

in slippery ground.

Saw a notch ½ inch deep into back and an inch below top of middle leg. Smooth edges with file. Middle leg, set back with top jutting forward, has the notch in place to catch and hold the target's sling. The sling is of light rope led under some of the stitches of boss and securely tied or spliced to two of them. Adjust on tripod till you have the center of the gold exactly four feet above ground when mounted. After this is done, mount target permanently to rig the ground line—a rope fixed to run and adjust on a cleat, like a tent guy rope. It ties into the boss, is staked in a straight line to ground, holding stand and target fast.

Although in most archery tournaments it is the target, not the shooting line, that is altered for varying shooting distances, in practice you may leave the target where it stands and move up to or away from it as you desire. Anyhow the target must be one that can be fairly easily moved from place to place, for you will probably want to put it away each time after you use it.

Note: Material on target and stand is abridged from description given by Gordon, in *The New Archery*, which the target maker should consult for more detail.)

TARGET

11. WHEN ARCHERY CAME TO AMERICA

As EARLY As 1828 a group of Philadelphians formed an archery club, known as the United Bowmen. They imported equipment at great expense, procured a range, and published the *Archers' Manual*. It is still very active and has the distinction of being the oldest shooting

club in this country.

In 1879 the National Archery Association (now the A.A.A.) was formed and has continued in existence ever since, though with long periods in which interest died down. It was Will and Maurice Thompson, regarded as the fathers of American archery, who brought archery into its own again. Maurice's book, *The Witchery of Archery* came out in 1878, and it is not difficult to connect the establishment of the national society, the next year, with its publication.

During the lean years, interest in archery was kept alive through the valiant efforts of men like Dr. Robert Elmer (many times archery champion and author of many books on archery), Homer Taylor (the great archer already mentioned as having had more than a half a century of practice in archery), and Louis C. Smith, now secretary of the A.A.A. L. W. Maxson of the Potomac Archers was another man who worked to keep archery alive, and by 1928, archery was very much alive indeed.

Tournaments both national and local were attended with much enthusiasm. Experts were developed. Elmer, Pope,

Klopsteg and others did tremendous research in the subject. Scientific bowyers perfected new bow types. Many of the modern improvements and adaptations both in bow design and types of arrows are due to the scientific experiments of Dr. Pope. Pope and Arthur Young were both known, while they lived, to many who know nothing of toxophily, as two of America's most expert big game hunters with bow and arrow.

For all-round service to the cause of American archery the name of "Russ" Hoogerhyde demands a special word. A great archer, he five times won the title of national champion. His archery demonstrations as he tours the country frequently attract as many as 18,000 spectators at a single show. "Think of 500,000 archers," says American Archery in its Hall of Fame Series, "and then think of the head of them—that's 'Russ' Hoogerhyde."

The Great Records-Ford, Chambers, Hoogerhyde

For early records of feats in archery we have to go back to England again, this time not to Robin Hood, but to a scholarly gentleman named Horace Ford. In his own day he surpassed all authenticated official records both in the Single and Double York Rounds. In 1857 he went on record at Cheltenham in the Double York with 125 hits and 675 score and the next year he raised this record to 230—1128. It took some time to beat that. In private shooting Ford records in his interesting book, *Archery; Its Theory and Practice* that he did much better than these official figures, making a 809 score in a Single York and a 280—1574 in a Double. Good shooting! But in 1938 the American, Pat Chambers* shot through a Single York of 139—813 and the next year a Single York of 133—826. His Double York record for 1938 was score 1614, for 1939, 1581.

Record Breaking 1929

We had nothing to compete with Mr. Ford until 1929 when Dr. E. K. Roberts shattered the 72-year record by

* Pat Chambers wrote the Shooting Article in this book.

making a Double York of 257 hits—1293 score, and a Single York of 129 hits—655 score. He also made high scores in the Single and Double American Rounds, 90—658, in the former, 180—1308 in the latter.

In the same notable tournament, Dr. G. A. Cathey made a new Regulation Flight Shoot record, of 353 yards, 10 inches, broken since by others.

1947 Champions

Top archer of 1947 was Jack Wilson of Springfield, Mo. His scores were 141—881 for the Single York Round; 280—1698 for the Double York; 90—694 for the Single American, and 180—1386 for the Double American. His Single and Double York Round Scores set all-time N.A.A. records. Larry Hughes' 1941 Single American Round record of 90—744 and Double American Round record of 180—1464 still stand.

In Regular Style Flight Shooting, Irving Baker of Westfield, N. J., led the field with a shot of 575 yards, 2 feet, 3 inches.

Future Champions

In 1938 Sonny Johns was described as the greatest boy archer in the world. His record in the Junior American was 360—2710, in the Double American 175—1141. He lost the championship for the 1939 meet, both Fred Folberth and Howard Wilson rating above him in the Junior American, and Folberth also ahead in the American. In 1938 Sonny shot a perfect end, six golds in succession. Folberth did the same in 1939. Both boys are entitled to membership in the famous Six Golds Club along with many adult champions.

In the 1938 (Boys) Flight Shot, David Davidson, made 301 yards 2 inches, Sonny Johns, 282 yards, 1 foot 6 inches, Basil May 259 yards. In the 1939 Clout Shoot (Boys) 36 arrows at 120 yards, Folberth made a score of 227, missing only once, Patsy Schweitzer, 31—185, Dick Lamping, 27—131.

In 1947 Jerome J. Moga of Niagara Falls, N. Y., set new records with 90—734 in the Single Junior American Round and 180—1440 in the Double. David Webb of Wichita,

NATIONAL SCORES

67

Kansas, was National Field Archery Association Junior Boy champion for 1947.

These young men may be future champions in the men's class. Or a dark horse may be sprung. Maybe the dark horse will be a Scout who began archery for this Merit Badge. Who knows?



12. AN AMERICAN ROBIN HOOD

Hood of America in the sense that he was the best known of American archers; and his brother Will would have filled well the role of Little John.

That there was much in common between the spirits of Robin and the Indiana writer and outdoorsman, no one who knows about the lives of both can doubt. Of course, Thompson wasn't a highwayman and poacher, though doubtless had he lived in Robin's day he would have been, and one of Robin's "merrie men" besides. But Robin himself was no happier under the greenwood tree than our Hoosier bowman, a natural member of the great and ancient brotherhood of vagabonds, who are, openly or secretly, scornful of social conventions. We have many proofs of this in what Thompson wrote about himself and his favorite pursuits. For example, here is part of what he wrote about a "blessed while" he passed alone with his bow in the Georgia mountains: . . .

"Peep into my den, and so realize simplicity like that of Arcadia. A bed of leaves soft enough and dry as powder, heaped against the rock. The slanting tan-bark shelter above makes the inclosure a little gloomy, and you may blink somewhat before you can see the two small pig-hams strung pendent from one of the poles. On another rafter hangs a short bag holding potatoes in one end and onions in the other. A tin can of salt and a little box of pepper are on a

AMERICAN ROBIN HOOD

ledge. Not another article of food have I. What more do I want, save water from the spring? If roast potatoes, raw onions and boiled ham are not good enough, I must forego pressing hospitality on you. To-morrow I may have some saddles of young gray squirrels, if my bow arm be steady.

"There stands a bow with a history. It has sounded one low, sweet note in the choicest solitudes from upper Michigan to lowest Florida. The wood that it is made of grew in the hills of Spain, and was carried over to England in the form of yew staves. It lay seasoning for nine years; then the bowyer took hold of it and was three years more doing it into a perfect weapon.

"Later on when you have seen me shooting, you will appreciate the tedious care used in making a yew bow of finest quality; for there is no implement at once so simple and yet so wonderful. You see that I have coated it with a film of waterproof wax, which is to keep the wood absolutely dry. Never since the Spanish axeman split the staves has a drop of water, or even a hint of dampness, entered the fiber.

"To be a good bowman requires nerve, muscle, and clear-eyed intelligence; and to be a good hunter rests upon all the conditions precedent to a full knowledge of nature at first hand. If there is in the world a practical and methodical man, it is the accomplished, genuine, outdoors naturalist. Make him furthermore a sylvan archer the equal of Robin Hood, and there you have a figure to study. At all events, I like to follow as best I may in the tracks of such a one for a while; and so you see my tan-bark tent and my tackle of Apollo."

Will and Maurice Thompson were not only great archers and great outdoor men. They had other elements of greatness in them, good Scouts in more than one sense. The life stories of few men in our national history any better illustrate the Scout qualities of pluck, gallantry and the refusal to accept defeat. They fought with the South in the Civil War, came home to start life over, their home destroyed, their right to use fire arms forbidden, Maurice seriously wounded. Born in Indiana, most of their early days were spent in Georgia. They went pioneer in 1865 from neces-

MAURICE THOMPSON

sity and choice, moved to the Florida Everglades and proceeded to put into practice their faith that man could exist in the simplest possible conditions, their only means of bringing down wild game, their bows and arrows.

For several years they lived under these primitive conditions, Maurice recovering health and both brothers getting more and more interested in the possibilities of the neglected art of archery. Maurice eventually returned to his native state, became a legislator and a writer of distinction.

Will Thompson wrote an excellent little book called *How To Train In Archery*, but it was Maurice who had the writer's gift and could charm with the magic words. *My Winter Garden* published in 1900 is even better reading, full of pleasant incident, showing the author's keen love and observation of nature, as well as his devotion to his chosen sport of archery which still bewitched him as it was to do as long as he lived.

If, as Thompson declares, archery will forever keep its hold on the hearts of men so long as the new moon returns to the sky, so long as archers live and love archery, they will remember and love Maurice Thompson.

A GLOSSARY OF ARCHERY

We are indebted to Dr. Robert P. Elmer's book "Archery," published by the Penn Publishing Company, Philadelphia, for this abbreviated glossary of Archery terms.

Armguard—A piece of leather, or other stiff material, worn on the forearm to protect it from injury by the bowstring.

Arrow-head—The tip, or pile, of an arrow, particularly when fashioned for slaughter.

Arrow-plate—A thin piece of hard material, set in a bow where the arrow crosses it, to prevent wear.

Arrow-smith—A maker of metal arrow-heads.

Back—The flat side of a bow.

Back-bow—A bow whose back and belly are of different strips of wood glued together. Rawhide, or other animal tissue, is sometimes used for backing.

Backing—Material from which the back of a backed bow is

Balloon-feather-A vane of parabolic outline.

Barbs—The two sharp points, projecting backward, of an arrowhead.

Barbed arrow—An arrow designed for slaughter, having barbs so that it cannot be withdrawn.

Barrelled arrow—An arrow that is larger in the middle than at the ends.

Belly—The round side of a bow.

Bobtailed arrow—An arrow which increases in thickness from the pile to the nock.

Bow-shot—The distance a bow will shoot an arrow.

Bowyer-A maker of bows.

Bracer—Same as Armguard.

Brash-Britte. Same as Frush.

Butt—An artificial embankment, usually made of sod or straw, on which a mark is placed.

Chested arrow—An arrow whose diameter increases toward the nock, or at least near the feathers.

Creep—To let the arrow slide forward on the hand a little just before loosing.

Crossbow—A missile weapon formed by a bow fixed athwart a stock in which there is a groove or barrel to direct the missile, a notch or catch to hold the string when the bow is bent, and a trigger to release it. (Cent. Dict.)

End-In America, six arrows shot consecutively.

Fistmele—A measure of six inches. It is believed by many to be the correct distance between the string and the bent bow and is found by placing the fist upright upon the inside of the bow-handle and raising the thumb. In old English law bows were required to be strung at least this high.

Fletch—To feather an arrow.

Flight bow—A strong bow to shoot the greatest distance.

Flight shot—A shot for great distance without regard to aim.

Follow the string—An expression denoting the permanent setting, or curving, of a bow from being bent and drawn.

Foot—A piece of hardwood spliced on the anterior end of a shaft and forming an integral part of it. Also called piling, footing and piecing.

Gadding arrow—An arrow that does not follow a true course.

High strung—When there is more than a fistmele between the cord and the bow-handle.

Horn-spoon-

1. The petticoat.

2. A prize for a hit in the petticoat.

"It was a custom of ancient standing and merriment that a horn-spoon should be worn by whoever shot his arrow into the sous or petticoat." (Roberts' English Bowman.)

GLOSSARY

Jointed bow—A bow whose limbs are separate but may be joined at will by a socket or hinge.

Laminated bow—One made of several strips of wood glued together.

Limb—Half a bow; called upper limb and lower limb.

Longbow—The name commonly given to the bow drawn by hand and discharging a long, feathered arrow, as distinguished from crossbows of all kinds.

Master-of-the-Green—A title used in America for the first time at the N. A. A. tournament of 1914 to designate the man who had charge of laying out the grounds and attending to the physical side of the meeting.

Overbowed—Using a bow beyond one's strength.

Overdrawn-Drawn too far; said of either the bow or arrow.

Pair—(1) Two arrows, in the usual meanning of the word; (2) To weight arrows in a balance, one against the other.

Petticoat—The rim of the target outside of the white ring.

Pile—A ferrule covering the anterior end of an arrow. It may be sharp or blunt and made of any hard substance. Also called head, tip and point.

Pin—(1) A tiny knot in yew wood, appearing on the surface as a black spot; (2) The peg which rastens a clout or buttmark.

Point blank—(1) Aim taken at a distance where the point of aim and the centre of the target coincide; (2) Aim taken at distance so short that the arrow flies in a trajectory that is practically flat.

Point of aim—An object so situated that if the tip of a fully drawn arrow be brought into the imaginary line between it and the eye, that arrow when loosed, if all other factors be perfect, will hit the center of the target.

Quartering wind—A wind blowing obliquely across the range.

Quiver—(1) A portable receptacle for arrows, carried attached to the person by a strap or hook; (2) The coming to rest of an arrow in what it hits. For example, "The arrow quivered in a tree," means that it stopped there, not that it trembled.

Range finder—A device for finding the point of aim. Usually a card or stick held at arm's length and marked with the distances above or below the gold.

Reflexed bow—A bow the backs of whose two limbs form a concave, obtuse angle, when unstrung.

Round—A prescribed number of shots at prescribed distances. The best known rounds are described on page 17.

Rovers—An archery pastime which consists in shooting at one mark after another, each mark being at a distance from the last. It may be played over a prescribed course.

Sap-wood—The light colored wood next to the bark.

Self-arrow—An arrow made of a single piece of wood, not footed.

- Self-bow—(1) A bow made of a single piece of wood; (2) A bow made of two pieces of wood joined at the middle but not backed. This should properly be either a jointed or a grafted bow.
- Sheaf of arrows—Twenty-four arrows in a case; used in military archery.
- Shilling—A measure of weight for arrows of eighty-seven and one-half grains.
- Sight—(1) To aim; (2) An artificial device placed on either the string or bow which enables an archer to aim directly on the gold without resource to a point of aim. Same as peepsight.
- Spine—The degree of stiffness, elasticity and resilience of an arrow in proportion to its thickness and weight. Rarely used in regard to a bow.
- Stave or Bowstave—A long, slender piece of wood of which a bow may be made.
- Stele-The wooden part of an arrow.
- Tiller—A stick with notches in the side and ends, used to hold a bow drawn while it is being made or repaired. One end is placed against the inside of the handle and the string is caught in a notch at the desired distance.
- Toxophilite—A student of archery; one who studies the history and archaeology of archery. (Cent. Dict.)
- Wand—(1) A prick-wand; (2) Specifically:—A slat two inches wide and standing six feet above ground used in the wand-shoots for men and women of the N. A. A.
- Whistling arrow—An arrow with a large round and hollow head, generally made of horn and perforated with holes, which makes a whistling noise as it flies.
- Windage—(1) The influence of the wind in deflecting an arrow; (2) The extent of such deflection; (3) Same as Drift.

BOOKS ABOUT ARCHERY

- THE NEW ARCHERY, by Paul H. Gordon. Appleton-Century Co., New York.
- Archery Aims, Hoogerhyde and Thompson. Archers' Co., Pinehurst, N. C.
- Modern Archery, Arthur Lambert. A. S. Barnes & Co., New York.
- ARCHERY, Dr. Saxton Pope. Putnam's Sons, New York.
 - GLOSSARY

- WITCHERY OF ARCHERY, Maurice Thompson—Pinehurst Ed., Archers' Co.
- My WINTER GARDEN, Maurice Thompson. Appleton-Century Co., New York.
- ARCHERY, Dr. Robert P. Elmer, Penn. Publishing Co., Philadelphia, Pa.
- MODERN METHODS IN ARCHERY, Reichart and Keasey. A. S. Barnes & Co., New York.
- ARCHERY SIMPLIFIED, Phillip Rounsevelle. A. S. Barnes & Co., New York.
- ARCHERY TACKLE, Adolph Shane. Manual Arts Press, Peoria, Ill.

ARCHERY SAFETY RULES

Remember that archery is a modern adaptation of ancient warfare, and in all cases conduct yourself accordingly.

Safety for You, Spectators and Equipment

- 1. A bow, like a gun, must never be pointed at a person.
- 2. The only safe place is behind the shooting line. Never shoot an arrow until you are absolutely sure that no one is in front of you. It is not safe to stand in front of a bow while it is being shot even if you are considerably to one side.
- 3. Arrows should be nocked only on the shooting line—pointed only in the direction of the targets—only after the field captain has blown the whistle!
- 4. Always remember that a double blast of the field captain's whistle means "STOP SHOOTING IM-MEDIATELY!"
- 5. Under no circumstances should an archer shoot straight up into the air. To do so may hit a spectator or yourself.
- 6. Deliberately break all cracked arrows. To shoot such an arrow might result in it breaking and injuring yourself while shooting.

- 7. For the protection of the bow, as well as yourself, do not draw a bowstring back further than the length of the arrow for which intended. This means you should not draw the string back except with an arrow on it. Overdrawing frequently breaks the bow and sometimes injures the archer because of flying pieces of bow material.
- 8. Under no circumstances should arrows with broadheads be used except for hunting game. Such arrows are too dangerous for every day use.
- 9. Use bows and arrows only in places especially set aside for their use. Such places must be laid out so as to remove all possibility of someone accidentally getting hit. Remember that arrows sometimes glance dangerously. Allow at least 20 yards behind targets or an equivalent rise of ground.
- 10. In field archery, if you are hunting a lost arrow behind a target, always leave your bow leaning against the target face so that it will be seen by the group of archers coming from the target behind. Better yet, leave one archer from the group in front of the target to prevent anyone shooting.
- 11. In field archery, be sure to stay on the path and travel only in the direction in which the targets are laid out while shooting is in progress. To cut across the area may put you in the path of a flying arrow and result in serious injury.
- 12. Carefully follow the instructions given by the field captain. He gives them for your benefit.
- 13. Allow no visitors to approach the targets since they will be unaccustomed to looking for arrows not on the targets.
- 14. Provide a person to watch archers' equipment so that spectators will not handle valuable materials.
- 15. When the field captain calls for shooting to stop for a hanging arrow—cooperate immediately even though ready to release.
- 16. Always practice courtesy on the archery range. If you are considerate and practice archery safely, your good example will help make it easier for others to do likewise. Last, but not least, be a good sport.

YOU AND YOUR MERIT BADGE COUNSELOR

When you are interested in something, you have twice as much fun if you talk it over with a man who really knows his stuff—like your merit badge counselor.

A counselor is usually a busy man. That's why you make an appointment with him ahead of time. Be there on time! Don't waste his time. If you can't be there, call him well in advance.

Your counselor usually has special equipment, collections, or materials to show you. If the subject is photography, he may have a perfectly equipped darkroom in his cellar or attic. If it's woodwork, the chances are he has a workshop filled with every kind of tool and gadget. Or perhaps it's astronomy, and the counselor will want to show you some things on night field trips. Each counselor's storehouse of interesting things is different.

Your counselor doesn't expect perfect book knowledge from you, but he wants to know that you have made a careful study of the subject. He also wants to know that you can do things with the knowledge that you have gained.

No Scout or Explorer wants a counselor to let him slide through the requirements just because he tried hard. When your counselor gives his approval, you want it to be because you have done a job you can be proud of, with no favors asked.